# SWAD-Europe Deliverable 12.2 RDF-based annotation system

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Abstract:
This report surveys the state of semantic web systems to support annot commenting on documents by people or agents who need not have any form of the document.
Status:
First version published 2002-12-03. This is a completed report, last up This document may be updated during the life of the SWAD-Europe further developments in this area.

Comments on this document are welcome and should be sent to list, archived at ☞http://lists.w3.org/Archives/Public/public-esw/ annotation techniques and especially Annotea should be sent to ☞www-annotation@w3.org, archived at ☞http://lists.w3.org/Archive

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# 1 Introduction

This report is part of ☞SWAD-Europe ☞Work package 12.2: Annotations the scope, features and purpose of tools for annotating or commenting systems that are licensed as ☞Free Software or ☞Open Source.

For those in a hurry: go straight to the ☞FAQs section

**Scope -** This report covers annotation systems known to be using the systems developed for the SWAD-Europe project and others developed ind development that appears to be closely related.

**Terminology -**

Annotation
: This term is used to describe information which is explicitly comment which can be discovered by some method using that resource as a key. include the use of the rel="rev" attribute to describe links in HTML. allow for flexible storage options and sophisticated lookup.

Annotea
: Annotea is used in this document to refer to the Annotea protocol dev is occasionallly also used to refer to the user interface for that protoco for some servers for that protocol.

# 2 Background

The Web as deployed today provides a simple, powerful system for makin and services. These links are one-way - from some information describin itself. This has proven to be extremely useful, but it is difficult to search su keeping large tables of data. The Semantic Web consists primarily of d machine-processable data designed for aggregation. In each case, finding i from that resoure has proven difficult.

Several annotation systems have been implmented in the Web. Early ap Web pages (still done by organisations like Google, but impractical for mos allowed the attribute rel="rev" to be attached to a link in a document, indica or in some way linked (forward) to the document. This in principle allow scale is a problem in implementing this approach.

More recent services for providing specific types of annotation (reviews example) have proven to be successful in enabling lookup of annotations annotate as a key in limited circmstances. These annotations have normally within a closed system.

W3C has been developing the Annotea protocol, and clients and serve standards-based, open and flexible way of allowing annotation of documents.

# 3 Annotea protocol

The Annotea protocol is in development within W3C as an advanced develc considered pre-standardisation it is not being developed as a W3C standa rather as a demonstration.

The ☞protocol [☞PROTOCOL] is documented, and is implemented Amaya client, and as a module for Apache servers.

The protocol was chosen for this project because it is based on RDF, ar the context of W3C. Different open source implementations for many parts available, wihch makes it a good framework for developing interoperable app

# 4 Implementation

Some further development of tools has been undertaken as part of the SWA annotations, leading to a ☞library of tools [☞ANNOTOOLS] for use w documented. These include utility functions which can be incorporated into simple models for copying. They are open source, available under the ter copyright license [☞LICENSE], a BSD-style license.

The MUTAT evaluation tool [☞MUTAT] was adapted to use Annote system, working with the experimental EARL server provided by W3C.

A more complete list of known implementations [☞IMPLEMENTATI Annotea project at W3C with the assistance of this project.

# 5 Collaboration

Other implementation of Annotea-based systems has taken place both within

An ☞experimental Annotea aggregating query server was developed, work funded by the SWAD-E project. Currently the source code is available uses a GPL-licensed HTTP server.

Work has been done collaborating with European developers of A particular in the use of EARL, an RDF vocabulary for supporting collaboration with developers and W3C's Web Accessibility Initiative has existing tools to take advantage of Annotea.

The ZAnnot server was packaged for easy installation under Mac OS X u the fink project, with simple ☞ZAnnot installation instructions provided for

This project has funded some European participation in the Annotea proje

# 6 Dissemination

As part of this project the use of Annotea was presented as an option fo

EARL, and for annotating images, at the workshop on EARL and Image a June 2002.

Using W3C's public annotation list [☞WWW-ANNOTATION] discuss Annotea and annotation systems in general, and leveraging the propertie provide for more powerful and flexible approaches integrated with the wider

SWAD-E resources have been used within W3C to ensure that European the documentation produced by the Annotea project.

# 7 Future work

Development work is being undertaken on incorporating Annotea into softw the project W3C is assisting the supervision of open-source student projec Annotea for adding value to tools for improving the knowledge manage incorporating Annotea into an open source accessibility evaluation tool.

# 8 Outcomes

- Tools which can be used for testing the interoperability of Annotea-ba
- Improvements to existing Annotea servers based on testing
- Assistance provided for development of several tools using Annotea
- A small library of simple code, available for incorporation in other pr
- Dissemination of information about Annotea and promotion of Web s Web as important bases for annotation systems.

# 9 Frequently Asked Questions (FAQ)

### What software is available for Annotea?

A list of known software [☞IMPLEMENTATIONS] is maintained by the Annotea servers and Annotea clients.

### What platforms do Annotea clients run on?

Clients are available for a number of platforms. Amaya is distributed in Linux, and available for many other variants of Unix including OS X. There for use within a Javascript-capable Web browser. The tools develope [☞ANNOTOOLS] run in Ruby, a language that can easily be installed Windows and Unix-based platforms.

### What servers are available?

There are open source Annotea servers written in PERL for Apache, and in

There is also a query server written in ruby - it does not accept annotations, from multiple servers. There is a list of known servers [☞IMPLEMENTAT the Annotea project.

### How do I extend the protocol?

Because the Protocol is in RDF it can be readily extended. An example i Annotea project to provide threaded replies to annotations. The ☞reply general the documentation of the protocol [☞PROTOCOL], but uses a r annotations [☞ANNOTEA-R] developed for this extension.

### Where do I find the Protocol and Schemas?

The protocol [☞PROTOCOL] is documented (with links to the schemas) as

## References

**Annotation tools, specifications and documents -**

[ANNOTEA-R]
The ☞Schema for threaded annotations, developed to allow for threac http://www.w3.org/2001/03/thread

[ANNOTOOLS]
A small ☞library of tools developed for use with the Annotea protocc people wanting to develop their own tools. These tools are described a http://www.w3.org/2001/sw/Europe/200209/annodemo/readme.html

[IMPLEMENTATIONS]
A list of ☞known Annotea Implementations is maintained by W3C's A http://www.w3.org/2001/Annotea/#Comp

[MUTAT]
The Open Source ☞MUTAT tool is designed to provide an interview producing conformance reports in the EARL [☞EARL] format. It ha the reports to be posted as annotations to an annotea server. An online available at http://www.w3.org/QA/Tools/MUTAT/

[PROTOCOL]
The ☞Annotea protocol is documented at http://www.w3.org/2001/A

[WWW-ANNOTATION]
The www-annotation@w3.org mailing list is a public discussion forur including Annotea. ☞Its archives (including instructions for subscribi http://lists.w3.org/Archives/Public/www-annotation/

**Other references -**

[EARL]
EARL (The Evaluation and Reporting Language) is a specification in

Evaluation and Repair Tools group. It is an RDF vocabulary for expre
arbitrary requirements. The Latest published draft is available at http:/

[LICENSE]

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